

2 / THE MONTESSORI MATERIALS: *Their Function and Relationship to the Child's Work, Play, and Social Life*

Montessori saw education as a means whereby children might develop their personalities so as to eventually achieve a mature and independent adulthood. She designed her educational material to aid them in this endeavor. This fundamental function of the material is generally disregarded when it is compared with the equipment found in most preprimary classrooms. Disappointment with the Montessori material results because the comparisons that are made are only superficial. This superficial approach is encouraged by adherence to either of the two main trends of current thought in education. One of these holds that young children should be free to express their urges and fantasies without restraint, thus experiencing a minimum of frustration. Objects should mainly serve to offer possibilities of gratification. In handling them, the children will also discover some of their objective qualities, but this is more or less a side issue. Learning at this early stage is held to hamper the uninhibited development of the child's personality, and therefore to be something that should not be enforced by organized teaching. From this point of view, the Montessori material appears too rigid.

The second approach to education popular today considers all development an integral part of the learning process, and all learning to be the result of conditioning, deconditioning, or reconditioning originally simple reflexes. Knowledge can therefore

be gained from experiments with rats and other animals, and then applied to human beings in a learning situation. Although the human organism achieves a higher level of differentiation, the chains of reactions encountered basically correspond to the same mechanical model. Whatever new theoretical constructs may be envisaged must obey the laws inherent in this basic theory. This is considered to be true even before the switch to the experimentation and observation of humans is made. Any imaginable skill within the abilities of the nervous system at a given stage of maturation can thus be acquired by the individual, providing an appropriate conditioning based on the accepted theoretical laws can be undertaken. Those accepting this view will find the Montessori material lacking in detailed systemization; for instance, in the programming of instructions. They will, therefore, consider it too limited in scope for proper learning.

This is an incomplete and oversimplified exposition of two widely accepted approaches in education, but I hope it will serve to make my point concerning Montessori education clear. It does include the more fundamental viewpoints of these schools of thought. However, they are seen only as parts of the basic educational pattern, a pattern that is derived from a broader conception of human development. The discussion above also illustrates an important point concerning education in general. Whether it is being explicitly postulated or not, the aims of education and the methods used to achieve these aims are determined by the psychological matrix resulting from the underlying general conception of human development.

Montessori actually presents a third, more comprehensive conception of education. As I have mentioned, she sees a basic biological difference between men and animals. This difference is clearly visible in the patterns underlying the behavior of individual human beings, which are not predominantly determined by heredity. Man must build these inner structures from which he evolves his personal behavior during his lifetime, and from his own experiences. In animals, instinct predominates and other functions are subordinate. An animal's general behavior and the relation of its species to its specific environment are included in the pattern of instinct with which it is born, and are therefore hereditary. In man, that which corresponds to this aspect of the animal instinct

materializes only after birth. It is an inner creation accomplished by man in the course of his youth, which is more protracted than that of any other living being. This creation takes place in a relationship of dependence on the community in which the individual develops, and from which he cannot be considered a separate entity.

However, this does not imply that man is a product of his environment, or that his development is left to chance. It is, rather, a complex process directed by inner drives that succeed one another at certain periods in his life. These drives are closely interrelated with the sequences of maturation and development, as well as with outer reality. These inner directives, however, are of a different order than animal instincts. Montessori called them "guiding instincts." They indicate the route man's mental development will take. Because this development can only take place within society, the cultural values of the time will help define its form.

Inner development must precede independence. Therefore, it is this inner development that is the child's major task. To accomplish it, the child is equipped with certain potentialities that do not exist, as such, in adults. One of these Montessori called "the absorbent mind." Through their close emotional ties with those who take care of them, children actively absorb, during the first years of life, the basic patterns they encounter in their social environment. From these their personal behavior will take shape. This pronounced sensitivity to and eagerness to assimilate impressions from the outside exists not only in relation to other living beings and their behavior, but encompasses everything that goes to make up the child's world. His emotional relationship with the external world is so intense that it strongly influences his whole being. This is why Montessori has called the child in this phase of development the "spiritual embryo." In later stages of development, children are led toward maturity by "sensitive periods" that stimulate them to carry out certain activities and to acquire certain experiences. These are necessary for the further structuring of their own personalities in relation to their environment. The possibilities offered by the surrounding world determine whether this predisposition toward new experiences with their resulting enrichment of the personality, is fully stimulated, merely used in part, or even quenched.

According to Montessori, education should be an aid to life.

Therefore, it must be an instrument for the support and guidance of the child in the monumental task of constructing the foundation of his personality. Three factors determine the course of this inner construction. The first is the child's own psyche, with its specific needs, potentialities, and sensitive periods, which determines the pace and direction of its inner development. This development does not occur in straight lines, but shows fluctuations and individual differences. The second is the cultural community, with its standards, habits, patterns of behavior, ideals, religion, and knowledge of all other aspects of its civilization. It is the prevailing order of this community that permits the child to achieve an inner harmony. The third is the material world with all its objective qualities, to which man must adapt himself in order to be able to utilize his own faculties freely.

The environment of modern man is highly differentiated and complex. A being confronted for the first time by the present world could not help but feel confused. Yet a child, once it has left the confinement of its mother's womb, must eventually come to terms with this world. It can only do this through experiences. Adults must give it the freedom to gain this experience in its own way. At the same time, they must help it, when possible, to explore and assimilate its world and the principles prevailing in it. They must, therefore, construct a bridge between their world and that of the child. Montessori education provides this bridge through the prepared environment. It is here that the Montessori material plays a fundamental role. The idea is not to reproduce the adult world in miniature, or to distort reality into a make-believe paradise in which children's wishes and fantasies are the only things considered. Rather, the prepared environment should bring the world at large, and thus the adult world, within reach of the child at whatever stage of development it is at a given moment.

In order to achieve this, the prepared environment should meet certain general requirements. First, it should be attractive, aesthetically and practically, from the standpoint of children of different age groups, but reflect that amount of organization and order necessary for a community to function properly. The rules used to achieve this should be valid for all. They ought to be derived not from the adult's wish to impose his authority, but, as in regulating

traffic, from a desire to allow every individual freedom of independent activity as long as his freedom does not interfere with that of others. The prepared environment should also stimulate the interest of the children in the kind of purposeful activities they need to further their general development. It must also be so arranged that they can carry out these activities in their own way and at their own rate. The environment should not be centered on a single function or skill, but call to a child's whole personality. Moreover, there should be ample opportunity in the environment for the child to practice, work through, and integrate with previous skills any new function or skill that has been acquired. This should also be true with regard to general behavior. Children should feel comfortable in the prepared environment. Their limitations as well as their possibilities should be taken into consideration in creating it. It should be made to measure for them so that they have the opportunity to behave independently whenever they have learned to do so. Adults should guide and help the child when necessary, but not unnecessarily. If, for example, toilet training has been successful and children can be independent in this regard, they should not have to ask the aid of an adult just because the utilities available are too big for them. These should be adapted to the children's smaller stature. So should the furniture and any other objects in the environment that are there for their use. If the environment is not so arranged, the children are constantly confronted with tasks which they see adults perform and which they know they could do also, if they were not too small in relation to the objects involved. They may come to regard adults, therefore, as powerful rivals instead of models. Finally, the prepared environment should contain material purposely constructed and selected to provide the children with the means of having certain basic experiences pertinent to their development. The Montessori material is not purely didactic, nor does it consist of toys, although the children learn from it and play with it, and, what is more, love doing so.

The Montessori material is only one of several devices by which the Montessori principles find expression. Now that its position has been established within the general frame of reference of the other two approaches to education, we can consider its special function.

When used properly, this material serves two main purposes. On the one hand, it furthers the inner development of the child: specifically, the indirect preparation that must precede the development of any new ego function. On the other, it helps the child to acquire new perspectives in its exploration of the objective world. It makes it aware of certain qualities of the objects, their interrelationships, existing principles of differentiation within a given category, organizational sequences, and special techniques for handling the objects. It challenges the intelligence of the child, who is first intrigued and later fully absorbed by the principles involved. If a spark is lit, a principle discovered, it awakens in the child an urge to exercise its newly acquired insight through endless repetitions of the action that led to it. When the child has fully mastered the principle involved, it spontaneously proceeds to apply it in handling all kinds of objects. The material does not, in the first place, teach children factual knowledge. Instead it makes it possible for them to reorganize their knowledge according to new principles. This increases their capacity for learning. Because the material serves this function, Montessori referred to it as materialized abstractions.

I should like to illustrate these two main aspects of the material with some examples. All ego functions, like perception, thinking, language, the comprehension of objects, and the coordination of movements and learning processes in general, require a long period of indirect preparation before they emerge as integrated aspects of the personality. This results in certain activities on the part of children which make no sense to adults. Often, children abandon themselves to these activities with such tenacity that it is very difficult to distract them.

I once witnessed the following scene. A small girl who was not yet able to walk, but who could move around quite adequately, pulled herself up by gripping the side of the living room coffee table. She then began to investigate a little vase of flowers on top of it. She held herself upright, supporting herself by putting her left hand on the table, and started to pull the flowers, one by one, out of the vase with her right hand, putting them on the table. While thus engaged, she exhibited all the seriousness and concentration one expects from a surgeon in an operating theater. The water on

the doily did not disturb her, nor did her mother, who enjoyed looking at this performance because of the intensity of purpose it expressed. As soon as all the flowers were on the table, the little girl started putting them back in the vase, one by one, with the greatest care. When she was finished she commenced to remove them again. This had been going on for some time when I entered the room. The little girl disregarded my entrance completely. She was on her fifth or sixth round and had no intention of stopping. It was as if the rest of the world did not exist for her. The mother and I kept watching her, fascinated. However, it was lunch time, and rather late at that, so after a while, when all the flowers were once more in the vase, the mother suggested going to lunch. Her daughter paid no attention whatsoever, and started again with a new round. The mother, although appreciating the fact that this activity seemed important to the child, did not want to have her or the rest of the family miss lunch, so she continued with her summons in a friendly, but persistent, manner. Finally, the child, without looking up or interrupting what she was doing, said with some vehemence "No, no!", and went on. At this point the flowers were again on the table, and the mother said, "Well, just put them back in the vase, but then we shall have lunch." The child said "No!" again and went on until the flowers were all back in place, only to start the proceedings all over again. This time her mother was firm in her intention and took her daughter up smilingly, promising her nice food and permission to continue with the flowers after lunch. The child was simply desperate, wailing and crying big tears, even when she was sitting in front of her food. It took quite a lot of cuddling and comforting before she calmed down. Happily, she was hungry, so that once she had detached her attention from her previous activity and her fit had passed, the alternative of eating was also attractive and she could again smile at the world.

This example is typical of the sort of activity that, to superficial observers, seems quite superfluous, especially if they judge it by adult standards. What is the use of putting flowers in and out of a vase endlessly? Still, for a child, it can be a very serious matter. The purpose of the activity, however, must be sought within the child, and not in the action itself or its objective aim.

The other function of the Montessori material, to help children

acquire new perspectives, is illustrated by the following experience I had with a girl four years old. We were sitting on a large couch with a cretonne covering that she had crawled and jumped on a great deal throughout her short life, as it was just under a window looking out on the street. We were chatting a bit in a gay mood. All of a sudden she lost interest in me, and looking quite seriously at the cushion on which we were sitting, said nothing for a while. I was wondering what might have caught her attention when she pointed with her small finger at a spot of the decoration in the flowery cretonne and said, "This is dark green." A little while later, pointing to another spot, she added, "And this is lighter green." She then found a still lighter spot and said, "This is the lightest." When the green shades were exhausted, she started examining another color, then another, and so on. I then joined her, following her statements with questions about other shades, and we continued until I had to go. Now, the interesting part of this story is that what the little girl learned with the Montessori material was not the colors themselves, nor their names, which she already knew. It was the concept of shades, which enabled her to rediscover this piece of furniture she had been so accustomed to all her life. She was looking at her own world with other eyes, as it were, and with a more differentiated perception.

These effects can only be expected when the material offered to a child corresponds to the kind of activities in which it has a special interest at that stage, and when its intelligence is sufficiently developed for it to grasp the idea involved. If material is given to a child too soon, it seems too difficult; if too late, it is boring. If, however, the time is right, it will be experienced as something the child can conquer. Montessori material offers children symbols and a means of interpreting their world in a more coherent and differentiated way. It therefore stimulates their wish to learn by making learning neither frustrating nor burdensome, but pleasurable.

Whoever has seen a Montessori child at the moment in its life when it discovers that it can read will never forget its happiness, its beaming face, its pride that a new world has been opened to it. I have had this privilege with my own children, and it has convinced me that something very fundamental and constructive happens to

children in Montessori schools. No matter what theories are involved, I should not wish to have deprived any of my children of this unique experience. It has also brought something new to our relationship. The children now not only have the joy of reading and making sense out of formerly mysterious symbols, but they also experience the joy of sharing something with adults, something which until that moment belonged exclusively to the latter's world. Now the children have entered this world as well. They have something new in common with the parents with whom they identify. The bond between them has been strengthened and made more realistic, and the children's still weak egos have been strengthened too. All this has come about in a miraculous way without the children knowing that it would happen. It is this element of discovery that makes the Montessori approach to reading a unique and gratifying experience.

The Montessori materials are generally used individually in the classroom. Therefore, it is important to consider whether a method that emphasizes their use can do justice to the social needs of children.

Historically, the Montessori method has been called an individual approach, to differentiate it from the classical approach, the only method in use in schools in the early part of the century. The fact is, however, that social education has always had an important place in Montessori schools. A number of factors contribute to this education: the role of the teacher, the free method of work, the prepared environment—which encourages respect for others and for materials—and the inclusion of children of varying ages in one group.

Montessori described the adult's function in the classroom as one of guiding in contrast to teaching. In fact, she discarded the term teacher altogether, preferring that of directress. Without guidance, no single community can come into being. Somebody must see to the maintenance of the patterns of behavior that are deemed necessary for ordered coexistence within a given group. Although the school community bears some resemblance to the family, it also differs from it, and therefore demands further social growth. Teachers are the representatives of this wider community. They must help the children by gradually familiarizing them with

its rules. Furthermore, this must be done in a manner that makes their inner acceptance by the children possible.

Teachers must uphold the rules of the school community for the benefit of the group as well as that of individual children. Accordingly the only punishment in Montessori education is isolation from the group for a temporary period. If a child behaves in a way that disturbs others, the teacher explains to him that others cannot continue their activities. She suggests that they go and look for something he would like to do. If he continues to be disruptive, he is set apart with his table, chair, and material. He can still see the group, but he is isolated from it. However, he is free to rejoin the others when he thinks that he is once more able to participate. It is the social situation that determines when such measures are necessary, and it is the child's positive desire to belong that motivates him to correct his behavior.

The balance between freedom for the individual and the needs of the group is another special feature of social education in the Montessori method. One can only speak of a true community when each member of the group feels sufficiently free to be himself or herself, while simultaneously restricting his or her own freedom for the sake of adjustment to the group. It is in seeking an optimal solution to this tension between personal independence and dependence on the group that the social being is formed. Too much individual freedom leads to chaos. Too much uniformity, imposed by adults, leads to impersonal conformity or to rebellion.

The prepared environment encourages social development by making it necessary for the children to consider both objects and others. Because the environment is adapted to their inner needs, it is attractive and stimulating to them. It invites them to engage in all kinds of activity. There are certain restrictions on this activity, however. First of all, the materials impose certain conditions. Controls of error are built into them. Whenever these conditions are not satisfied the objects themselves confront the children with their properties. The children are thus presented with problems for which they must seek better solutions if they wish to fulfill the tasks they have chosen to perform. This factual relation to the objects promotes inner adjustment to their environment.

Similarly, an outward adjustment is also required, for everything

in the prepared environment has its own special location. After material has been used, it must be returned to its original place and condition so that other children can work with it or, not finding it, can know that it is already in use. This outward adjustment is achieved through following the instructions of the teacher, through the children's awareness of the needs of others, and through the order of the environment itself, which arouses the children's desire to collaborate in maintaining it. These forms of adjustment are important aspects of the process of adaptation that determines the social development of the individual.

Respect for others is further developed through the children's relationship with the teacher in the prepared environment. When a child first comes to school at the age of two and a half or three, it has little direct contact with other children. This is because emotionally the young child turns much more to the adults in its surroundings. It develops a personal tie first with its mother, then with its father, and then with other trusted adults in its first milieu. A tie with its teacher becomes a further extension of this sequence. Teachers occupy just as important a place in a class as a child's mother does at home, and children turn naturally to them for help. The relationship that develops is less personal than the mother-child relationship, but a positive tie between teacher and child is the only satisfactory basis for education. For this reason Montessori called education a technique of love.

Teachers must actively strive to establish a positive relationship so that children will approach them with confidence and accept their authority as a matter of course. In order to do this, they should make themselves as attractive as they can, not only in appearance but as a source of new, happy experiences. They must respect the children's personalities, understand their developmental needs, and appreciate their achievements. In this way, they avoid standing opposite the children as a representative of arbitrary authority and take their place beside them as wiser persons who understand them and who are willing to help them in their endeavors to grow toward adulthood. The children in turn respond with affection and a willingness to accept the teachers' guidance.

Once this type of relationship has been established, they can gradually help the children to become members of the class

community, something that is only possible when they respect the interests of the group and help to maintain the existing social order. They learn to use the material with care so that it remains in good condition for the use of others, to assist in keeping the mutually shared environment attractive and orderly, to behave in such a way that others can work undisturbed, to develop good manners that make them at ease in various social situations, and to postpone the satisfaction of their own wishes when they conflict with the demands of reality and the needs of others. All this is done in as natural a way as possible whenever the occasion arises.

Montessori was one of the first to realize how important collective work is for mental development. Therefore, she strove to create optimal conditions for its realization in her schools. The exercises of practical life for the young children promote social contact both because of the nature of the task and because of the way in which they are organized in the classroom. It is a common sight to see little groups of two or more children who have voluntarily begun to do these exercises together. Collective work continues to be emphasized in Montessori education all through preprimary and secondary education. At the beginning of a working period, a short lesson is given on a general subject that may interest the whole group. When this proves a success, it often results in a wave of activity among the children. Sometimes this results in their working together directly. At other times they may work individually, on their own level and according to their own insight and abilities. However, they are at the same time taking part in a group event, for their separate contributions are on a common subject and can later be seen by everyone as a collective achievement. There are, of course, class discussions when, for example, on a Monday morning the teacher gives the children the opportunity to tell about their weekend experiences. In this way they learn to speak before a group, to give each other a chance to speak, and to make relevant contributions to a line of thought. At the same time they hear about one another's daily life. Especially after a vacation, this gives rise to compositions and drawings based on their experiences. In addition, the children often react actively to things the teacher reads to them, what the teacher says to them about a subject that everyone in the adult world is discussing, in the

preparation of a science display, and so on. There are also individual activities in the service of the group, such as the care of the plants and animals in the classroom, the cleaning of the shelves and materials, and the distribution of food for snacks. There are group activities such as making decorations for the classroom for festive days and celebrations, the silence lesson, exercises on the line, dancing, and singing. Plays and dialogues are created, and there are indoor and outdoor games of all sorts. In short, a good Montessori classroom will be the scene of a variety of collective activities.

It remains now to consider whether the individual emphasis of the Montessori materials is suitable for young children, for it is indeed true that children who are working with the materials are quietly doing so on their own. In psychological literature this solitary type of occupation is generally labeled egocentric. In my opinion, this term is only correct if the behavior of the child is judged by adult standards. This, of course, is what the psychologists in question actually do. If, however, one takes account of the child's own nature, it is immediately clear that this term cannot be used to describe its activity. A small child is capable of becoming wholly absorbed and fascinated by what it is doing. But it is occupied with the materials on which it is concentrating, and not with itself.

Of course, children in a Montessori class do much more than work with the material. They are well aware of those around them, and one often sees the small ones watching the work of others, particularly the older ones, intently. In doing this they absorb much more than it seems, and are already preparing themselves for more active social participation in the community of the class. The contribution of the Montessori classroom to the development of a social life sometimes goes unnoticed because of the emphasis on the inner growth of the child. Often one thinks of social development in terms of mutual contact. This is to underestimate the process involved. A long period of indirect preparation is indispensable if a child is to develop the capacity of relating to others. As in all areas of human development, nothing is achieved immediately and rectilinearly.

Children quietly practicing on their own with Montessori

materials are unconsciously preparing themselves for participation in the community in which they will later have to find their places as independent adults. The Montessori method is specifically designed to aid them in this important task. If there are Montessori teachers who have not grasped this goal of education, to which the method owes its highly dynamic character, it is due to their own limitations, and not to the method itself. Any teacher or other adult who fails to appreciate the importance of this inner development devalues man to the level of a gregarious animal and denies the child the help it needs to become truly what it is intended to be: a social being.

I would like now to discuss a third area related to the Montessori materials, that of play, because it has always been—and still is—surrounded by misunderstanding and criticism. In the course of time, however, the direction of critical comment has shifted. Where formerly it was held that children in Montessori schools could do what they liked, and thus played all day long, today the reverse is contended. It is said that the children may only do what Maria Montessori wanted them to do, so that their need for free play is not satisfied.

In order to see Montessori's view of play in proper perspective, it is necessary to recognize the historical context in which she began her work. First of all, schools for children under the age of five or six were the exception rather than the rule. In cases where separate facilities could be provided for very young children, they were nursery facilities where toys were played with under the watchful eye of a governess and where they were more or less left to their own devices.

Since young children were not deemed capable of anything but play, they were given only those objects which, in the opinion of adults, seemed most suitable for this typical and rather senseless form of behavior. The toys that could be bought were generally pretty and ingenious, but they were not sufficiently adapted to the children's own nature. Their design was mainly determined by what attracted adults. They were therefore based on a projection of adult likes onto children, and not on what children themselves needed to play with. The practice of giving toys to children implied

a sense of superiority on the part of adults, who did not take the children's play seriously, but merely wanted to please them. It reminds one of the behavior of the white traders who offered hand mirrors and colored glass beads to the chiefs of primitive tribes to establish good trade relations. Children's play was regarded by adults more as a childish business than as fundamental human behavior at an early stage of development. Only when a child did something that fitted adult expectations, that is, when it was being least a child, could it expect appreciation.

Montessori, however, wanted to study children in their own world. Therefore, in seeking the optimum conditions for her scientific experiment, she let herself be guided by the spontaneous activity, reactions, and expressions of children. She started by offering them all the usual toys that were supposed to please them; but she also introduced new ones, some of which were the same as the materials found in Montessori schools today. From the children's point of view, they simply continued playing, but with more intriguing playthings. For the observer, however, revelations of lasting importance resulted. The exteriorizing of the contents of the child's own experience by creating shapes out of formless material, the elaboration of impressions from daily life by acting them out alone or with other children, the expression of dominating emotions through fantasies of all kinds, and inexhaustible physical activity were the accepted forms of typical childlike behavior throughout the ages, although they were never completely understood. The new aspects of child behavior that came to light through Montessori's work clearly demonstrated for the first time that children have an inner need to learn to know themselves and their world: to develop their intelligence and other mental functions through purposeful activity, to develop control of their movements through the use of their bodies in specific structured situations, to organize the contents of their experience according to the order they encounter in the world, and, finally, through an acquaintance with the properties of things, to grow familiar with their environment and with their own capacities in order, eventually, to become independent.

All this happens in a manner natural to children and of their own volition, and therefore should be termed play. Yet, when

children are adequately aided in this respect, one is struck by the new qualities they develop: the maximum effort very young children put forth, the repetition of exercises time and again—not for the sake of the end result—but for the sake of the activity itself, the sense of order, the intensive concentration once a task has aroused a child's interest, the joy in work, the growing self-confidence and social ease, and all the other manifestations that inspired Montessori to develop her educational method.

Two main attitudes can be distinguished in the spontaneous behavior of children. The first is a desire for self-expression. The direction of events is, as it were, from the inside to the outside. Objects serve as a means to express the contents of a child's own experience, its capacities, and the products of its fantasy. That which lives in the child itself is exteriorized by its use of objects and the meaning it gives them in free play.

The less structured objects are and the more they function merely as raw materials, the more appropriate they are for this purpose. Clay, sand, water, beads, coloring materials, blank paper, art materials of many kinds, can serve very well in this connection. A boy running with a stick between his legs and acting out the fantasy that he is a mighty cowboy on horseback chasing a group of Indians singlehandedly, would not benefit from being given a real horse, or a toy horse, in exchange for his stick. The stick does not even function as a symbol of a horse. It is actually no more than a sign: a sign that indicates the transition between reality and fantasy and also maintains the connection between the two. It is similar to the signposts in medieval theater that indicated the scenario, which the stage setting itself left to the imagination of the spectators.

When children, either alone or with others, are busy with such fantasy play, adults can offer them little help. The usefulness of objects is also limited, for they must fit, or be made by the children to fit, into the fantasy world. The children alone know how that world has to be organized and what significance to assign to the objects. The objects should lend a quality of reality to the children's fantasy without disturbing its free course by having too specific properties or by being too differentiated. In all fantasies, especially those with an emotional content, a child is confronted with its personal experience. They enable it to achieve a conscious

elaboration of this experience. On the other hand, the child gets none the wiser about the world's objective qualities, the properties of things and their interrelations, or the organization of its environment from a fantasy. Children themselves give form to their fantasies, and reality must comply with the dictates of imagination.

When reality does not support a child's fantasy, or when occurrences in the immediate environment or events connected with the child's own body claim its attention, the child's attitude toward the outer world changes. If, for instance, a screaming fire engine races past, the boy with the stick horse forgets for the moment to be a cowboy and turns with curiosity to that real occurrence. It is characteristic of such situations that children do not create their own world but are, as it were, drawn out of it by the call of reality and venture forth to meet the things that exist in the world in their own shape. Compliance must now come from the children's side if they want to get better acquainted with these real events and real things, and test them on their own merits. Things have their own significance and organization, their own characteristics, values, and possible uses. The world exhibits a definite structure in which various principles of order, laws, and mutual relations can be discerned. Objects in the world therefore make demands on the children's power of combination, on their insight, and on their ability to coordinate their movements. Unless these conditions are met, they cannot make adequate use of real world things that they encounter.

The form of inner construction taking place when children are engaged in fantasy play, or whether any kind of self-construction at all is occurring, is not known. However, as a spontaneous form of activity in children, fantasy play deserves serious study. Montessori did find that, given a choice, children chose the activities that eventually came to compose the Montessori environment. She herself made no value judgment about this choice. She merely observed it, and accepted the children's behavior. The fact that Montessori children generally chose activities that informed them about the world outside themselves, may be in part the result of two aspects of their lives. First, the practical life activities, based as they are on actions the children see adults performing in their environment, may partially meet their need for dramatic play

(which seems to be based on copying what they see about them).¹ Second, children in our culture tend to have more opportunities for self-expressive play than for activities that develop their knowledge of the outer world. Therefore, given a choice, they tend to choose the latter.

In this chapter, I have discussed the role of the Montessori materials in some detail: their primary role as an indirect preparation for ego functions and the differentiation of the child's intelligence; the position they hold in its developing social life; and their relationship to its needs both for self-expression, as in fantasy play, and for self-realization based on contact with outer reality. The role of the materials has been misunderstood by both admirers and critics, but it need not be. If one understands Montessori's basic approach to education as an aid to life, the role of the materials falls logically into place. They are, quite simply, aids to the child in its self-construction.

NOTE

1. Montessori's appreciation of drama in general is often forgotten. For very young children, she suggested such activities as extemporaneous acting inspired by a beginning sentence such as "Maria went to the window and cried. . . ." The older children in Montessori schools write and produce original plays. In some classrooms the afternoons are devoted almost exclusively to various kinds of artistic expression, including plays. The latter are often based on history or literature. For example, an original play may be put on depicting a historical period or event, with authentic costumes, props, and scenery. One school I visited (the Montessori School of Northern Virginia, 6820 Pacific Lane, Annandale, Virginia 22003) had been to a production of Shakespeare a few weeks earlier, and one of the children had asked to see the slides the teacher had taken during the performance. While the slides were being shown, several children spontaneously spoke the lines from the scenes being depicted. The play was *Midsummer Night's Dream*, and the entertainment superb as one nine-year-old boy in particular raised his voice to take the leading female role, acting the part to perfection.